

EXPERIENCE

Nvidia

Datacenter Software Engineering Intern / May 2024 - Aug 2024

- Wrote diagnostic scripts to validate rack server assemblies during production and find defects (Python, Bash).
- Automated the generation of diagnostic specification packages, reducing the manual workload for running a diagnostic by 5% (Python).
- Built infrastructure tools enabling file transfers between host servers and test devices (Python, Bash).
- Validated engineering run rack server products during new product introduction to find and debug issues before the start of production.

Tesla

Firmware Integration Engineering Intern / Sep 2023 - Dec 2023

- Built a cloud service to update car configurations during production, eliminating the manual process done 10 times per month (Python, Kafka, Kubernetes, Docker).
- Automated validating changes to vehicle diagnostics firmware, saving 2 hours of work per change (Python).
- Debugged and fixed firmware issues during new product introduction, such as a bug that broke LIN communication with a new controller module (C, Linux).
- Built Splunk dashboards to track and share key production metrics with the process engineering team.

Midnight Sun UWaterloo Solar Car Team

Firmware Developer / Feb 2023 - Sep 2023

- Wrote firmware to read steering, indicators, and cruise control inputs and send corresponding signals to the vehicle controllers (C, FreeRTOS, CAN).

Ansys

Software Test Engineering Intern / May 2023 - Aug 2023

- Built an optimization tool that reduced the compute resources needed for testing by ~\$10,000/year (Python).
- Wrote a code coverage analysis tool that maps which code is used by which tests and flags gaps in test coverage, eliminating the manual review every 3 months (Python, Pandas, Power BI).
- Validated new features and debugged issues for Ansys System Coupling (C).

Ford

Software Engineering Intern / Sep 2022 - Dec 2022

- Automated the process of building software packages, removing 3 days of work per month (Python, Jenkins).
- Developed test bench code to validate device codes and addresses, eliminating serialization defects (C#).
- Wrote test scripts to test connections to GPIO, CAN buses, etc. during manufacturing (C++, Linux).
- Designed and built a test fixture to simulate the presence of peripherals for a vehicle controller (SolidWorks).

PROJECTS

Self-Driving Model Car

[GitHub](#)

- Designed a model car and wrote a computer vision model to drive it around a track (Python, TensorFlow).

Tic Tac Toe Neural Network

[Play Against It](#) / [Video](#) / [GitHub](#)

- Built a neural network from scratch and trained it to play Tic Tac Toe with 97.3% accuracy (Python).

SKILLS

- Languages - Python, C, C++, Bash, SQL, Splunk, JavaScript, HTML/CSS, C#, MATLAB
- Tools/Knowledge - Git, Jira, Jenkins, Linux, FreeRTOS, Pandas, TensorFlow, Kafka, Kubernetes, Docker
- Application and script development for PCs, Raspberry Pi, Rack Servers, Cloud Computing
- Embedded development for STM32, Arduino, Motor Controllers (Protocols like CAN, LIN, SPI, I2C, UART)

EDUCATION

University of Waterloo

Bachelor's in Mechatronics Engineering / 2020 - 2025